On-site identification of early Meissen Böttger red stoneware made at Meissen using portable XRF/Raman instruments: 2, glaze and gilding analyses

G. Simsek[1,2,3], Ph. Colomban[4*], F. Casadio[3], L. Bellot-Gurlet[4], K.T. Faber[1], G. Zelleke[3], V. Milande[5], and L. Tilliard[5]

[1] *Department of Materials Science and Engineering, Northwestern University, Evanston, IL, USA*

[2] *Labex MiChem, Ladir, UPMC, 4 Place Jussieu, c49, 75252 Paris Cedex 05, France*

[3] *Art Institute of Chicago, Chicago, IL, USA*

[4] *Sorbonne Universités, MONARIS, umr 8233 CNRS, UPMC Univ. Paris 06, 4 Place Jussieu, c49, 75252 Paris Cedex 05, France*

[5] *Cité de la Céramique – Sèvres & Limoges, Place de la Manufacture, 92310 Sèvres, France*

* corresponding author : Ph. Colomban philippe.colomban@upmc.fr

Supplemental Figures

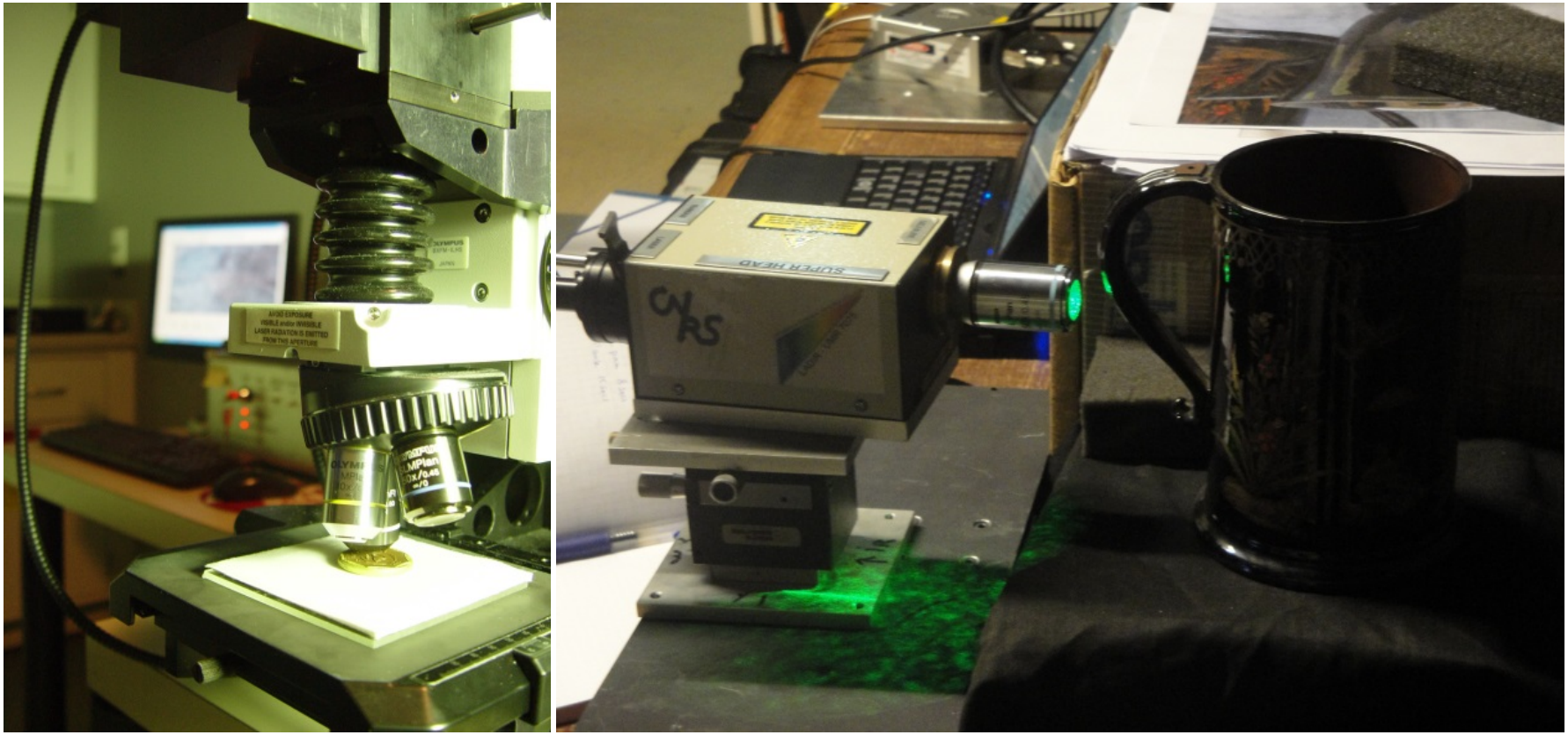


Figure S1: A laboratory (left) and portable (right) Raman set up. The distance between object and portable instrument is 15 mm. A black textile is put on both the remote head and artifact before increasing the laser power at the required level to screen off unwanted ambient light.

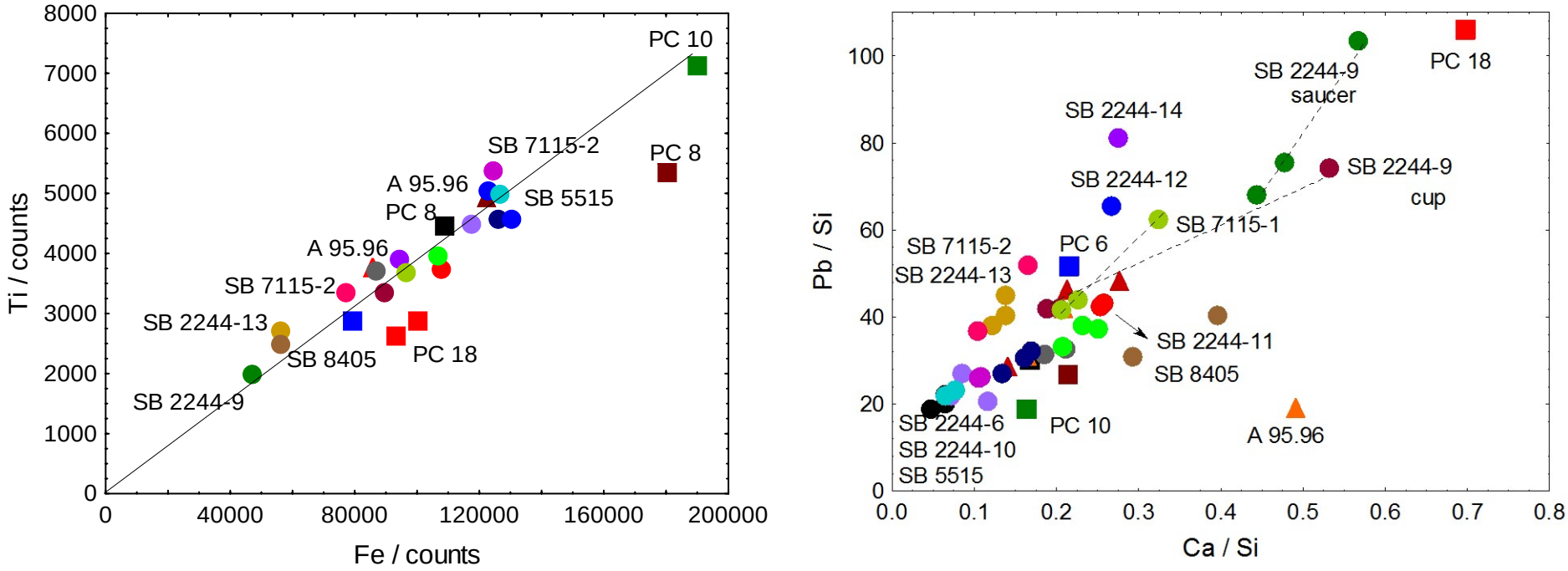


Figure S2: Scatterplot of Ti vs Fe XRF net area counts and Pb vs. Ca (normalized by Si).

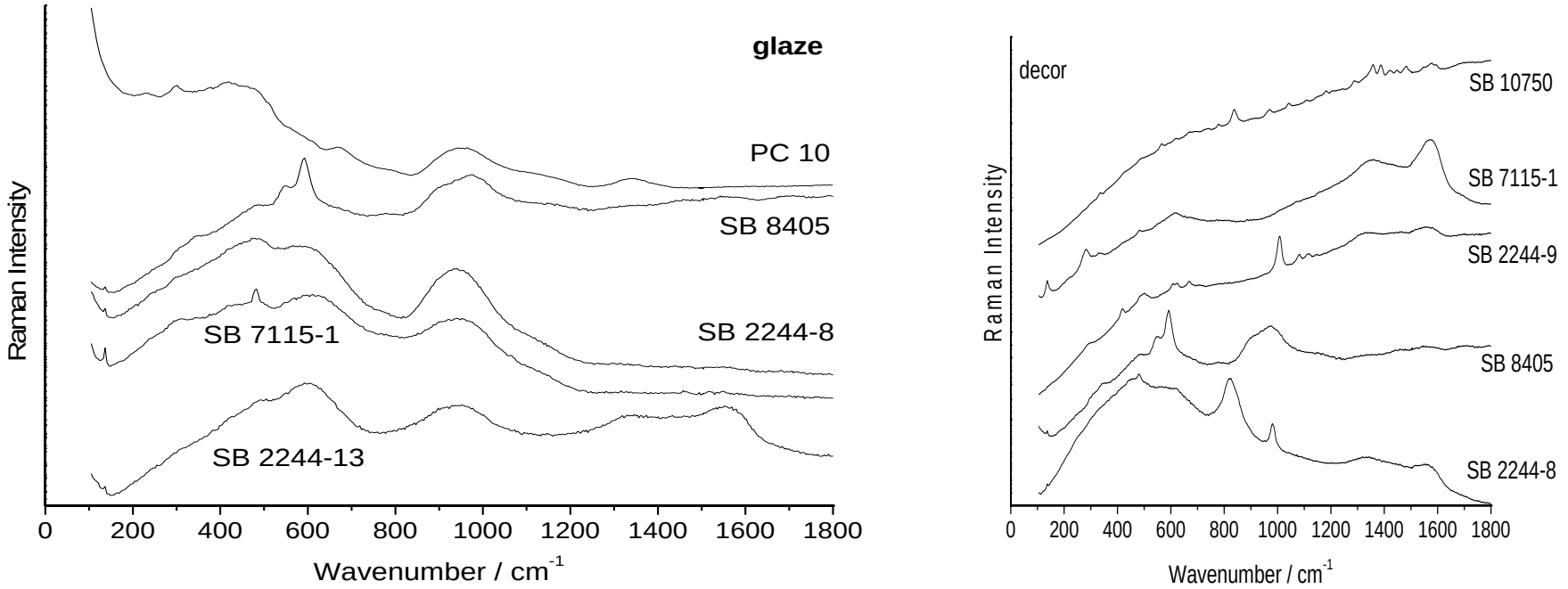


Figure S3: Representative as recorded Raman spectra on glaze (a) and overglaze decoration (b).

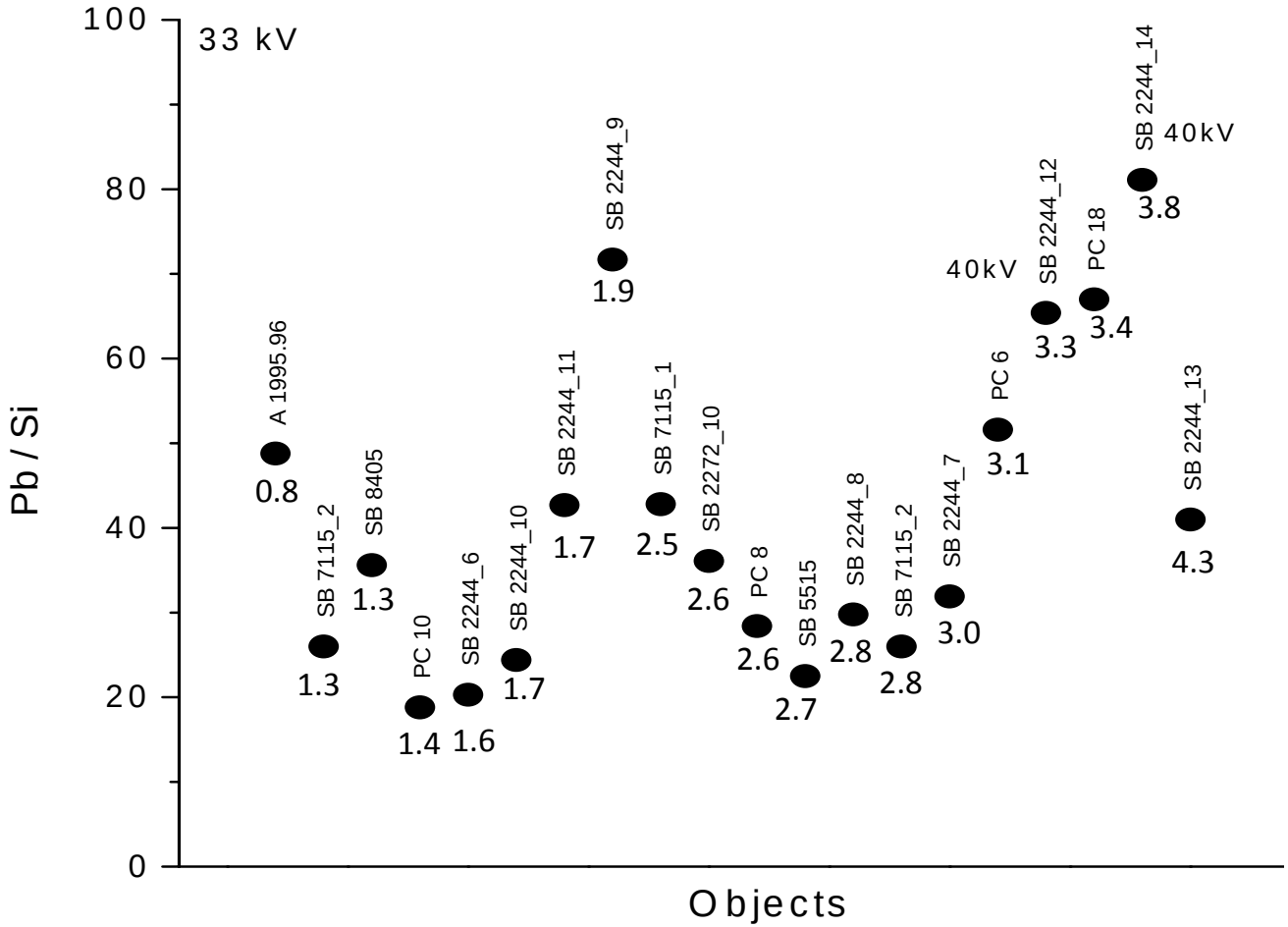
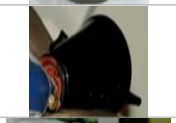


Figure S4. XRF Pb net area counts normalized by Si. The objects are listed according to their increasing Ip value (see below the labels) (see Fig. 3c).

Inventory number	Object's identifier (this article)	Object	Artisan (if known)	Production Year (estimated)	Production place	Dimensions (cm)	Acquisition date	Motive of acquisition	Picture
1995.96	A 1995.96	Coffee pot		1715	Meissen Factory	20.5x13.5x9.1	1995	Restricted gift of Mrs. Marilynn Alsdorf in memory of her husband	
MNC 2244-6	SB 2244-6	Tankard	Böttger	1715	Meissen Factory	14x13x9.1	1836	Purchased in Dresden by Brongniart	
MNC 2244-7	SB 2244-7	Tankard		1713-1720	Meissen Factory	16.7x11.7x5.5	1836	Purchased in Dresden by Brongniart	
MNC 2244-8	SB 2244-8	Sake Bottle		18th century	Meissen Factory	17x11	1836	Purchased in Dresden by Brongniart	
MNC 2244-9	SB 2244-9	Cup & Saucer	Böttger	1710	Meissen Factory	2.8x13.4	1836	Purchased in Dresden by Brongniart	

						9.3x4.5			
MNC 2244-10	SB 2244-10	Teapot	Böttger	1710	Meissen Factory	7.5x13.2x8	1836	Purchased in Dresden by Brongniart	
MNC 2244-11	SB 2244-11	Teapot		1713-1720	Meissen Factory	17x9.50x12	1836	Purchased in Dresden by Brongniart	
MNC 2244-12	SB 2244-12	Coffee pot	Jacob-Johann Irminger	1715	Meissen Factory	13x17.70x7	1836	Purchased in Dresden by Brongniart	
MNC 2244-13	SB 2244-13	Vase		1713-1720	Meissen Factory	13.1x8	1836	Purchased in Dresden by Brongniart	
MNC 2244-14	SB 2244-14	Cup		1710-1719	Meissen Factory	13x10.1x8.8	1836	Purchased in Dresden by Brongniart	
MNC 2272-10	SB 2272-10	Bottle		1715-1720	Meissen Factory	36.7x17.2	1837	Sent by Dresden Museum	

MNC 5515	SB 5515	Teapot	Böttger	1710	Meissen Factory	10.3x16.5x10.2	1860	Gift of Charles de Férol	
MNC 7115-1	SB 7115-1	Tea caddy		1713-1720	Meissen Factory	12x11	1875	Gift of Dresden Museum	
MNC 7115-2	SB 7115-2	Cup & Saucer	Böttger	1710	Meissen Factory	Saucer: 2.5x12.3 Cup: 3.4x7.4	1875	Gift of Dresden Museum	 
MNC 8405	SB 8405	Dish	Factory	1710	Meissen	Plate 32,8 x 28,5 x 5,8 cm	1885	Bequest of Baron Charles Davillier	

Table S1: A selection of the studied objects that are part of publicly accessible collections

Code	ν, cm^{-1}	δ, cm^{-1}	I_p	Estimated firing T (°C)
A 1995.96	970	608	0.8	<900
SB 2244_6	955	475	1.6	<1000
SB 2244_7	961	485	3	<1200
SB 2244_8	955	473	2.8	<1200
SB 2244_9	943	458	1.9	<1000
SB 2244_9				
SB 2244_10	952	470	1.7	<1000
SB 2244_11	958	470/590	1.7	<1000
SB 2244_12	951	475/587	3.3	<1400
SB 2244_13	953	583	4.3	<1400
SB 2244_14	966	580	3.8	<1400
SB 2272_10	964	592	2.6	<1200
SB 5515	940	474	2.7	<1200
SB 7115_1	964	581	2.5	<1200
SB 7115_2	952	472	1.3	<1000
SB 7115_2	934	480	2.8	<1200
SB 8405	969	462	1.3	<1000
PC 6	947	467	3.1	<1400
PC 8	944	458	2.6	<1200
PC 10	945	483	1.4	<1000
PC 18	940	467	3.4	<1400

Table S2. Raman parameters of the glaze structure, representing νΣι–O, stretching peak; δ Si-O bending peak; I_p, polymerization index and estimated firing temperature.[23-26]